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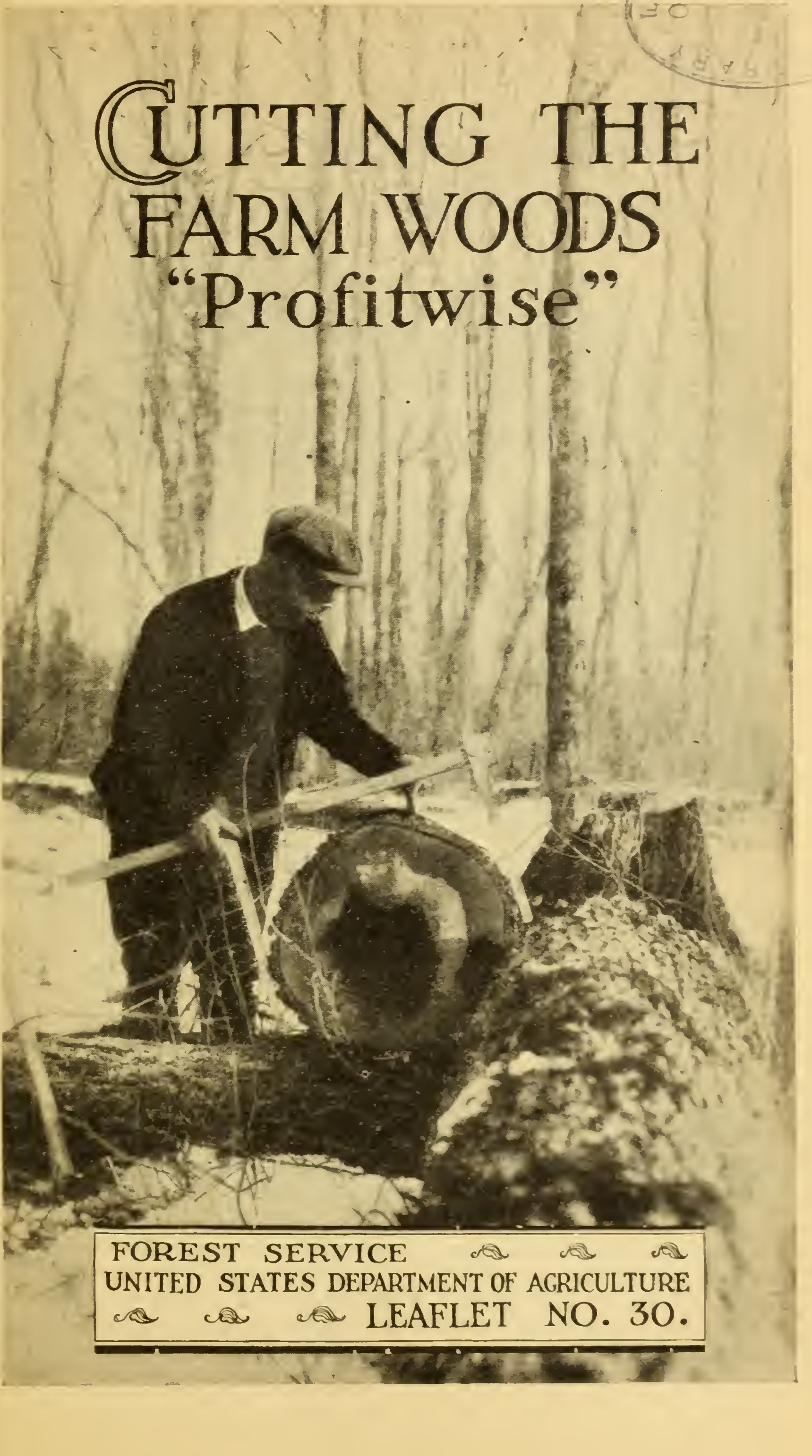

FOREST SERVICE
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CUTTING THE FARM WOODS "PROFITWISE"

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The owner of farm woodlands may add greatly to the value of his woods by giving them protection and by judicious thinning so as to give the individual trees the room they need, but he will still fail to get full value for them if he does not cut his timber "crop" properly. In most woodlands, cutting should remove the large mature trees that are the most profitable for lumber and leave the small immature trees to grow and make possible another cut some years later. This method of harvesting timber is rightly called "selective" cutting.

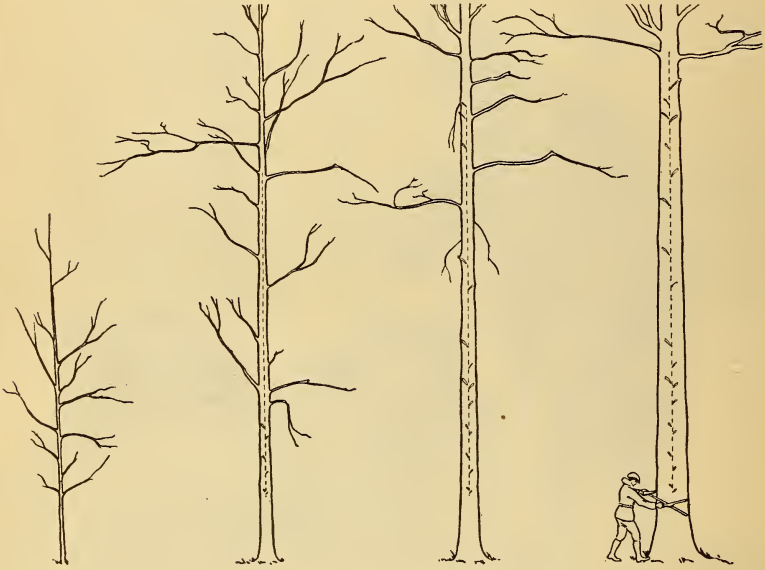

FIG. 1.—Successive stages in the growth of a tree

These views of the tree at successive diameters are the artist's attempt to show the way nature constructs a tree. At 2 inches in diameter there is practically no clear material in the bole. At 9 inches new growth has begun to cover the scars of limbs discarded by natural pruning. At 14 inches the lowest limbs are growing more than a log length from the ground, and the tree is ready to yield at least one clear log. At 26 inches the pruning process is complete; the veteran is ready to yield 19 times as much material as that which could have been produced at 9 inches in diameter, and this material will bring in 36 times the amount of money that would have been paid for the wood of the immature tree

Let us see how selective cutting works out in practice. Take a farm woods having an average stand of sugar maple trees ranging in diameter from 9 to 26 inches. This example, although it deals with maple only, illustrates how selective logging works out in most farm woodlands. The volume and value of the lumber which these trees of different diameters will produce can be fairly accurately figured out from studies recently conducted by the Forest Service on hundreds of sugar maple logs and trees of different sizes.

Table 1 gives this information. It shows that from the small trees a much lower percentage of the better and high-priced grades of lumber is cut than from the large ones. For example, the lumber from a tree 9 inches in diameter breast high is worth only $22.57 per thousand board feet, or about one-half as much, foot for foot, as the lumber from a 26-inch tree. Since the lumber from large trees is worth more than that from small ones, the logs are likewise worth more per thousand feet, and the owner of the farm woods gets more for his work by cutting only the larger logs and pricing them according to their value.

The total value of the lumber in a 26-inch tree is 36 times that of the lumber in a 9-inch tree, yet the volume is only 19 times as great. (See Table 1.) One of the chief advantages of selective cutting is that it makes possible the removal of the greatest value with the least volume.

Studies made at the Forest Products Laboratory, Madison, Wis., have shown that maple trees less than 12 to 14 inches in diameter actually do not pay their way through a band sawmill if sawed into standard lumber.

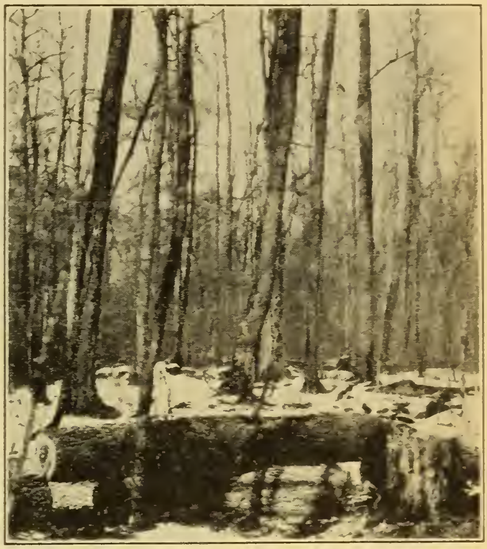
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FIG. 2.—The trees left standing grow faster, rid of the competition of the larger trees

The trees left standing after the farm woods has been cut selectively will grow much faster, because they no longer need to compete with the larger trees for moisture, sunlight, and space in which to spread their crowns. (Fig. 2.)

A woods selectively cut has a value as a windbreak and also adds a great deal to the appearance of the farm. (Fig. 3.)

No hard-and-fast rule can be laid down regarding the smallest size of tree the woodlands owner should remove under selective cutting, because no general statement will apply exactly in all cases. It is doubtful, however, if trees less than 12 inches in diameter can be cut profitably for lumber, even if sawed in small portable sawmills.

If the owner is in doubt how to cut his woods selectively, he should get in touch with the State forester, the State college of agriculture, or the county agricultural agent.

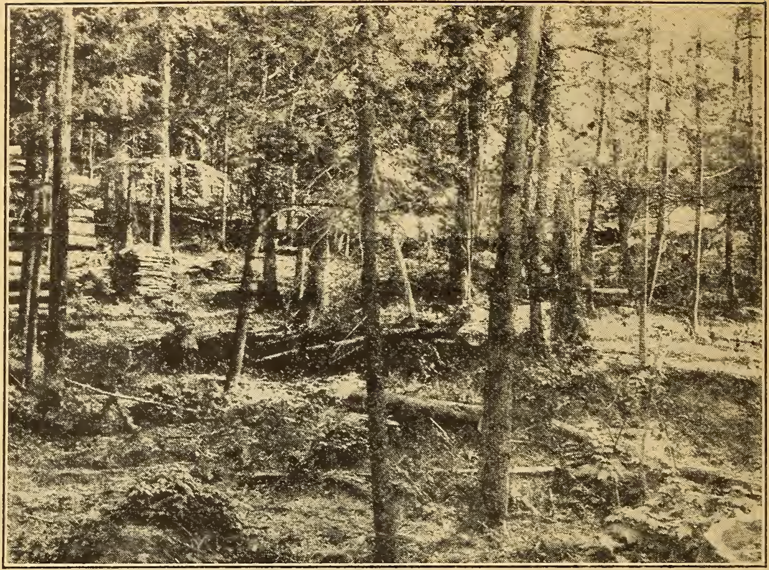

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FIG. 3.—A farm woods selectively cut has value as a windbreak and adds a great deal to the appearance of the farm

TABLE 1.—*Grades, volume, and value of lumber in sugar maple trees of different sizes*

Diameter in inches	Volume of tree	Wood merchantable as lumber, by grades					Total value of lumber in tree	Average value of lumber in tree per M
		Firsts and seconds	Selects	No. 1 common	No. 2 common	No. 3 common		
	Board feet	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Dollars*	*Dollars*
9	35		0.6	8.2	12.3	78.9	0.79	22.57
10	65		1.2	9.6	13.5	75.7	1.54	23.64
11	88	0.4	1.7	10.9	14.5	72.5	2.19	24.83
12	115	.9	2.1	12.3	15.3	69.4	3.00	26.05
13	144	1.4	2.8	13.7	15.8	66.3	3.94	27.37
14	176	2.3	3.2	15.1	16.0	63.4	5.06	28.74
15	206	3.2	3.6	16.4	16.2	60.6	6.20	30.08
16	240	4.1	4.2	17.7	16.1	57.9	7.55	31.46
17	282	5.0	4.7	18.8	16.1	55.4	9.23	32.74
18	321	5.8	5.2	20.3	15.9	52.8	10.94	34.07
19	359	6.6	5.6	21.8	15.8	50.2	12.70	35.37
20	403	7.5	6.0	23.1	15.7	47.7	14.77	36.66
21	447	8.3	6.6	24.3	15.5	45.3	16.95	37.93
22	487	9.1	7.1	25.5	15.3	43.0	19.06	39.14
23	527	10.0	7.6	26.6	15.0	40.8	21.27	40.37
24	572	10.9	8.1	27.6	14.6	38.8	23.76	41.54
25	610	11.8	8.6	28.7	14.1	36.8	26.06	42.73
26	652	12.1	8.8	28.8	14.1	36.2	28.08	43.06

Grade values figures on basis of—

Firsts and seconds	$80
Selects	70
No. 1 common	57
No. 2 common	33
No. 3 common	17

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